

CLAIMS

1. A method (100) for providing bandwidth fairness in wireless networks, comprising:
receiving a set of packets (46C) on an access point (20) for a wireless station (46C);
5 setting a more fragment bit of the set of packets (46C); and
transmitting successive packets of the set of packets from the access point (20) to the wireless station (46C) without back-off.
2. The method (100) of claim 1, wherein the step of setting the more fragment bit,
10 comprises setting the more fragment bit in a MAC header accompanying the set of packets (46C) to a value of 1.
3. The method (100) of claim 1, wherein the set of packets (46C) comprises a plurality of packets.
15
4. The method (100) of claim 1, wherein the more fragment bit is not set in a last of the set of packets (46C) to be transmitted.
5. A method (200) for providing bandwidth and airtime fairness in wireless networks,
20 comprising:
receiving a packet (34) on an access point (20) for a wireless station (22A);
calculating an airtime requirement for transmitting the packet (34) to the wireless station (22A);

setting a time counter (50) on the access point (20) based on the airtime requirement; and

determining whether the packet (34) can be transmitted before the time counter (50) expires.

5

6. The method (200) of claim 5, further comprising transmitting the packet to the access point.

7. The method (200) of claim 5, further comprising splitting the packet (34) into a set of
10 fragments (48) if the packet (34) cannot be transmitted before the time counter (50) expires.

8. The method (200) of claim 7, further comprising transmitting the set of fragments (48) until the time counter (50) expires.

15

9. The method (200) of claim 7, wherein the splitting step comprises splitting the packet (34) into equal sub-packets to yield a set of fragments (48).

10. The method (200) of claim 5, wherein the airtime requirement is calculated based on
20 a size and a transmission rate of the packet.

11. An access point (20) for providing airtime and bandwidth fairness in wireless networks, comprising:

means for calculating (38) an airtime requirement for a packet (34) received on an access point (20) for a wireless station (22A);

5 means for setting (44) a time counter (50) based on the airtime requirement; and

means for determining (38) whether the packet (34) can be transmitted to the wireless station (22A) before the time counter (50) expires.

12. The access point (20) of claim 11, further comprising means for communicating (32) the packet (34) if the packet (34) can be transmitted to the wireless station (22A) before the time counter (50) expires.

13. The access point (20) of claim 11, further comprising means for splitting (40) the packet (34) into a set of fragments (48) if the packet (34) cannot be transmitted to the wireless station (22A) before the time counter (50) expires.

14. The access point (20) of claim 13, wherein the means for splitting (40) the packet (34) splits the packet (34) into equal sub-packets to yield the set of fragments (48).

15. The access point (20) of claim 11, the airtime requirement is calculated based on a size and a transmission rate of the packet (34).

16. The access point (20) of claim 11, wherein the access point (20) is a wireless access point (20) implemented within a wireless local area network.

17. A program product (35) stored on a recordable medium for providing airtime and bandwidth fairness in wireless networks, which when executed, comprises:

program code for calculating (38) an airtime requirement for a packet (34) received on an access point (20) for a wireless station (22A);

5 program code for setting (44) a time counter (50) based on the airtime requirement; and

program code for determining (38) whether the packet (34) can be transmitted to the wireless station (22A) before the time counter (50) expires.

10 18. The program product (35) of claim 17, further comprising program code for communicating (32) the packet (34) if the packet (34) can be transmitted to the wireless station (22A) before the time counter (50) expires.

15 19. The program product (35) of claim 17, further comprising program code for splitting (40) the packet (34) into a set of fragments (48) if the packet (34) cannot be transmitted to the wireless station (22A) before the time counter (50) expires.

20 20. The program product (35) of claim 19, wherein the program code for splitting (40) the packet (34) splits the packet (34) into equal sub-packets to yield the set of fragments (48).

21. The program product (35) of claim 17, the airtime requirement is calculated based on a size and a transmission rate of the packet (34).

22. The program product (35) of claim 17, wherein the program product (35) is implemented on an access point (20) that is implemented within a wireless local area network.

5

10

15

20